REMARKS

In the Office Action dated October 4, 2003 the Examiner rejected claims 1-8 and 10-17 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,303,327 ("Sturner") in view of U.S. Patent No. 6,253,181 ("Junqua"). Applicant respectfully traverses the claim rejections and requests reconsideration.

Speech recognition systems may interpret a response incorrectly. (See, e.g., Applicant's Specification, page 3, lines 16-24.) Applicant recites in claims 1, 7, 8, 14, 16, and 17 a system and method for measuring an ability of a subject that accounts for the problems associated with the speech recognition systems. Specifically, the system and method provide a subject score that depends on an item-dependent operating characteristic of the speech recognition system. As a result, the subject's ability can be more accurately assessed because the problems associated with the speech recognition system incorrectly interpreting items in the subject's response can be normalized or otherwise taken into account. (See, e.g., Applicant's Specification, page 16, lines 10-12.)

The Office Action states and Applicant agrees that "Sturner fail[s] to explicitly teach that the subject score accounts for inaccuracies, potential recognition errors, or item-dependent operational characteristics of the speech recognition system." (See, Office Action, page 3.) The Office Action further states that Junqua overcomes the deficiencies identified in Sturner. However, Junqua does not show or suggest providing a subject score that depends on the item-dependent operating characteristic of the speech recognition system.

In contrast, Junqua shows an adaptation system designed to overcome problems associated with adapting an initial speech model to difficult speakers, such as children and foreign speakers.

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(See, e.g., Junqua, column 1, lines 8-21.) A confidence measurement system screens out utterances that are not reliable enough for use by the adaptation system. (See, e.g., Junqua, column 4, lines 9-15.) The confidence measurement system uses a likelihood score ratio that compares a likelihood score associated with a correct recognition with a mean of the likelihood scores associated with an incorrect recognition. (See, e.g., Junqua, column 4, lines 15-21.) A speech recognition system generates the likelihood scores based on the likelihood that each of its models would generate the input utterance. (See, e.g., Junqua, column 5, lines 4-22.) The likelihood data is separated into two classes, a class for correct recognition and a class for incorrect recognition. (See, e.g., Junqua, column 5, lines 23-26.) The input speech may be incorrectly recognized because the utterance is mispronounced. (See, e.g., Junqua, column 5, lines 15-16.)

Junqua discloses a speech recognition system that generates likelihood scores based on the likelihood that each of its models would generate the input utterance. However, Junqua does not suggest that the likelihood score depends on an item-dependent operating characteristic of the speech recognition system. In fact, Junqua suggests that the likelihood score depends upon the reliability of the utterance. Junqua describes both children and foreign speakers providing utterances far from the input expected by the speech recognition system. (See, e.g., Junqua, column 3, lines 60-66). Further, background noises, such as those generated by the television or other children, render utterances unrecognizable. (See, e.g., Junqua, column 4, lines 6-8). To address this problem, the speech recognition system is coupled to the confidence measurement system, which provides a quantitative measure of how reliable each utterance is. (See, e.g., Junqua, column 4, lines 9-12).

On the other hand, the invention as claimed accounts for inaccuracies in the speech recognition system itself. As noted in the Background section of the present application:

> A further disadvantage to this evaluation technique is that it typically does not account for the accuracy, or more importantly the inaccuracy, of the speech recognition

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> system. Known speech recognition systems may interpret a response incorrectly. For example, speech recognition systems typically are implemented with a predetermined vocabulary. Such a system is likely to react inaccurately to a response that falls outside of the vocabulary. Speech recognition systems also may make errors in recognizing responses to items that are in the vocabulary, particularly short words. As used herein, "recognizing" a response means recognizing the linguistic content and/or other characteristics of the response. The accuracy of the speech recognition system may be thought of as a measure of the character and quantity of errors made by the speech recognition system.

Junqua fails to show or suggest any system that accounts for inaccuracies of the speech recognition system itself and, accordingly, Junqua fails to show or suggest providing a subject score that depends on an item-dependent operating characteristic of the speech recognition system.

Because both Sturner and Junqua fail to show or suggest providing a subject score that depends on an item-dependent operating characteristic of the speech recognition system, claims 1, 7, 8, 14, 16, and 17 are not obvious in light of the combination of Sturner and Junqua. Accordingly, Applicant submits that claims 1, 7, 8, 14, 16, and 17 are allowable as written.

Claims 2-6 depend on claim 1. Claims 10-13 depend on claim 8. Claim 15 depends on claim 14. Accordingly, Applicant also submits that claims 2-6, 10-13, and 15 are allowable for at least the reasons set forth above.

In light of the above, Applicant respectfully requests withdrawal of the rejections under 35 U.S.C. § 103(a).

CONCLUSION

In light of the above remarks, Applicant submits that the present application is in condition for allowance and respectfully request notice to this effect. The Examiner is requested to contact Applicant's representative below if any questions arise or she may be of assistance to the Examiner.

Respectfully submitted,

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